

MR957-1404

Serial Number: 10/679,311

Reply to Office Action dated 15 September 2005

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Office Action dated 15 September 2005. Responsive to that Office Action, Claims 1-2 have been canceled, and Claim 3 has been amended for further prosecution. With such amendment of Claim 3, there is a further clarification of the pending claim's recitation.

In the Office Action, the Examiner rejected Claim 3 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. Responsive to this rejection, Claim 3 has been amended and now particularly points out and distinctly claims the subject matter which Applicants regards as the invention.

In the Office Action, the Examiner rejected Claims 1-2 under 35 U.S.C. § 103(a) as being unpatentable over Wang (U.S. Patent 6,170,310) in view of Morgenthaler, et al. (EP 0446819 A2). In response to this rejection, Claims 1-2 have been canceled and therefore obviates the Examiner's rejection under 35 U.S.C. § 103.

In the Official Action, the Examiner rejected Claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Wang and Morgenthaler, et al., further in view of Applicants' own admitted prior art Fig. 6. Before discussing the prior art relied upon by the Examiner, it is believed beneficial to briefly review the subject Patent Application, as defined in Claim 3. The subject Patent Application is directed to an actuating mechanism for a movable arm of a pipe bender. The mechanism comprises a power source, with an output shaft defining a first axis, which delivers

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torque for displacing the movable arm. The actuating mechanism includes a transmission for passing on movement of the power source to the movable arm. The transmission comprises a planetary gear set that includes a central shaft and a crown gear that is securely connected with a lower end of the central shaft. The central shaft defines a second axis that is transversely disposed relative to the first axis. There is an actuating pinion securely connected with the output shaft of the power source and engaged with the crown gear. As more clearly recited, the power source is disposed adjacent to the transmission and further includes a motor for delivering torque to the movable arm and a second planetary gear set.

Applicants' claimed actuating mechanism includes, among its combination of features, a second planetary gear set that makes up part of the power source. The second planetary gear set is coupled to the actuating pinion which in turn drives the planetary gear set of the transmission.

The full combination of these and other features recited by Applicants' pending Claim is nowhere disclosed by the cited references. The Examiner first cites the Wang reference which is directed to a transmission shaft of a movable arm of a pipe bender comprising a main shaft, a sun gear ring and a central gear shaft. Although the Wang reference discloses a transmission including a planetary gear set, it does not contemplate a power source including a second planetary gear set which drives a planetary gear set of a transmission.

The Examiner then cites Morgenthaler, et al. as disclosing a pipe bending machine which includes the use of a crown gear with an associated pinion. Nowhere does the Morgenthaler, et al. reference disclose or suggest the use of a second planetary gear set. In fact, the reference does not contemplate the use of

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planetary gear sets for the power source or the transmission. It seems that the pipe bending machine is a streamlined machine designed to be used with the parts as shown. Looking at fig.2 of the reference, the pipe bending machine is orientated and designed in a manner in which multiple, heavier planetary gear sets might not properly "fit" in the device as disclosed. It is believed that the inventors of the pipe bending machine of Morgenthaler intended to minimize the parts used in order to produce a streamlined machine. Furthermore, the reference fails to disclose the "...power source being disposed adjacent to the transmission..." as recited in amended independent claim 3. Fig. 2 of the Morgenthaler, et al. reference clearly shows the power source (including the motor) and the transmission longitudinally displaced each from the other. Whereas, the obvious benefits of positioning the power source adjacent to the transmission are seen with Applicant's claimed device.

The Examiner further cites Applicant's Admitted Prior Art Figure 6 as disclosing a power source with all of the claimed elements (not shown in the Wang and Morgenthaler, et al. references) which would include the second planetary gear set. The Examiner concludes that it would have been obvious to utilize the power source with all of the claimed features in the device of Wang, as modified by the Morgenthaler, et al. reference, for the purpose of supplying an appropriate amount of power/torque to the device at the desired power draw.

The admitted prior art Fig. 6 does not disclose the full combination of features as now recited in Claim 3. The admitted prior art figure 6 clearly shows a pipe bending machine in which the power source and the transmission are oriented parallel, each to the other, in an offset manner. Whereas, Applicant teaches the

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transmission and power source having respective axes that are transversely oriented. The offset orientation as shown in the admitted prior art fig. 6 normally does not enable the degree of output as Applicant's claimed device. The transmitting element in combination with the offset, parallel orientation of the prior art device, seemingly inhibits the transfer of high torque output from the power source to the transmission. Furthermore, Fig. 6 does not show the power source being disposed adjacent to the transmission as taught by Applicant. As mentioned, the obvious benefits of positioning the power source adjacent to the transmission are seen with Applicant's claimed device.

Therefore, as the combination of the Wang, Morgenthaler, et al. and the admitted prior art Figure 6 fail to disclose or suggest a "...second planetary gear set..." and "...power source being disposed adjacent to the transmission..." and "...said second axis being transversely oriented with respect to said first axis...", they cannot make obvious the claimed invention.

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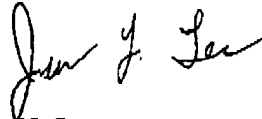
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It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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Jun Y. Lee 